

THE SUBGENERA CRASPEDOCHAETA AND ACROSTILPNA IN NORTH AMERICA, GENUS HYLEMYIA SENS. LAT. (DIPTERA, MUSCIDAE).

By H. C. HUCKETT, Riverhead, New York.

The present paper deals with two segregates within the genus *Hylemyia sens. lat.*, whose general habitus is exemplified respectively in the species *Hylemyia pullula* and *Hylemyia latipennis* of Zetterstedt. Ringdahl (1929)¹ in studying the Swedish fauna has proposed the names *Melinia* and *Acrostilpna* for the segregates, and has included them in a key to allied groups in which some or all of the species are known to possess a bristle or spur at apex of posteroventral surface of hind tibia. In my opinion it is doubtful whether the name *Melinia* can be maintained in view of the claims of *Craspedochaeta* Macquart (1850) for recognition.

Craspedochaeta Macquart

Craspedochaeta Macquart, Dipt. exot., Suppl. 4, p. 241 (1850).

Melinia Ringdahl, Ent. Tidskr., LI: 270 (1929).—Tiensuu, Ann. Ent. Fenn., IV (1): 26 (1938).—Collin, Ent. Month. Mag., LXXV: 146 (1939).

Genotype: *Anthomyia punctipennis* Wiedemann (by original designation).

The genus *Craspedochaeta* was proposed by Macquart (1850) for the reception of the South American species *Anthomyia punctipennis* Wiedemann. The generic description was based on the female sex, which, among other characters, was described and illustrated as possessing two hooklike setae (*crochets*) at caudal extremity of ovipositor. This seeming discrepancy in the text and drawing was stated by Stein,^{2,3} who had examined Wiedemann's type in the Vienna Museum, as being probably due to Macquart's error in mistaking the anal appendages (palpi) for such structures, and not apparently, to any mistake on Macquart's part in identifying the species.

¹ Reference to literature cited in the synonymies is signified by date of publication.

² Stein, P. 1904. Die Amerikanischen Anthomyiden. Annales Musei Nationalis Hungarici, II: 480.

³ Stein, P. 1907. Revision der Bigot'schen und einiger von Macquart beschriebenen aussereuropäischen Anthomyiden. (Dipt.). Zeitschr. f. Hymen. u. Dipt., VII (4): 285.

The subgenus *Melinia* was proposed by Ringdahl (1929) for the reception of four European species, of which *Aricia pullula* Zetterstedt was chosen as the type. This species, in my opinion, is congeneric with *Anthomyia punctipennis* Wiedemann, the type of *Craspedochaeta*, and hence the name *Melinia* for the group falls as a synonym owing to the prior claims of *Craspedochaeta*.

Malloch⁴ in his study of the Diptera of Patagonia and South Chile disclosed that he was treating of many species under the genus *Hylemyia* that properly belonged to Macquart's *Craspedochaeta*. A comparison of the illustrations of the male copulatory appendages there presented with those of *pullula* (Schnabl and Dziedzicki, 1911) and *karli* (Ringdahl, 1929) strongly indicates that these species possess a common kinship. This deduction has been confirmed by an examination of a number of specimens from North and South America belonging to the group. The neotropical species evidently reach their northern limits of distribution in the Southwestern region of the United States, being represented there by *Hylemyia ochripes* (Thomson).

Subgeneric characters.—Head with fascial bands on parafacials near base of antennae and not unusually on buccal area; postocular setulae in both sexes mostly short and stiffish; male with a pair of minute orbital setulae adjacent anterior ocellus; female with caudal pair of ocellar bristles longish and directed outwards; mesopleura with a single seta dorsad of upper long bristle of mesopleural series, well developed but not long, and with a bristlelike seta on upper border adjacent anterior notopleural bristle; stigmatal bristles (below mesopleural spiracle) with only one or two accessory setulae at base; sternopleurals arranged 2:2; mid tibia with two postero-dorsal bristles, hind tibia with a short bristle or spur at apex of posteroventral surface; male with copulatory processes and genitalic appendages typical of *pullula*, the former as pendant flat horny plates devoid of outer bristles, and typically terminating in a lobelike extension directed caudad, gonostyli (inferior forceps) notched apicad and armed on inner surface with spinulose setae (figs. 4-9); basal sclerite of hypopygium in North American species shining black except in *ochripes*.

⁴ Malloch, J. R. 1934. Diptera of Patagonia and South Chile. Pt. VII, Fasc. 2, Muscidae. British Museum (Natural History), p. 179-187.

KEY TO SPECIES.

1. Clouding of *m-cu* crossvein restricted to dotlike marks near or at union of crossvein and longitudinal veins; abdomen with a dorsocentral vitta and paired lateral marks on terga 3 and 4; male with basal sclerite of hypopygium grayish pruinulent *ochripes* (Thoms.)
 Clouding of *m-cu* crossvein continuous and subparallel, or absent; abdomen with only a dorsocentral mark on terga 3 and 4; basal sclerite of hypopygium in male black and lustrous 2
2. All femora largely or entirely blackish; in female mid and hind femora occasionally pale seal brown 3
 Mid and hind femora reddish or yellowish, sometimes more or less tinged with infuscation 4
3. *R-m* and *m-cu* crossveins clouded; fore tibia usually with one medial posteroventral bristle; male with scutellum pale gray; female devoid of bristlelike setae on discal surface of tergum 5 *pullula* (Zett.)
R-m and *m-cu* crossveins not clouded; fore tibia usually with two medial posteroventral bristles; male with scutellum blackish; female with erect bristlelike setae on discal surface of tergum 5 *mimetica* (Mall.)
4. *R-m* and *m-cu* crossveins broadly clouded; abdominal dorsocentral vitta composed of a series of subtriangular marks; in male the bristles on median third of anteroventral surface of hind femur usually stouter developed than those distad, in female the frontal vitta reddish cephalad at base of antennae *facialis* (Mall.)
R-m and *m-cu* crossveins not broadly clouded; abdominal dorsocentral vitta linear in outline; male with bristles on medial third of anteroventral surface of hind femur shorter than those distad; female with frontal vitta entirely grayish black *nigriceps* n. sp.

Hylemyia (*Craspedochaeta*) *ochripes* (Thomson)

Anthomyia ochripes Thomson, Dipt. Eug. Resa, p. 553 (1868).

—Aldrich, Misc. Coll. Smithsn. Inst., XLVI: 549 (1905).

Hylemyia ochripes Stein, Wien. Ent. Zeitg., XXIX: 70 (1910).—Séguy, Gen. Insect., Fasc. 205, p. 105 (1937).

Arizona: ♀, Baboquivari Mt., VII.19.32 (R. H. Beamer). [Univ. Kans.]

California: ♂, San Mateo (Baker), lectoallotype. [U.S.N.M.]
 ♀, Whittier Hills, II.19.32 (C. H. Martin). ♀, Stinson Beach,
 VI.11–15.38 (R. H. Beamer). [Univ. Kans.]

The species *ochripes* is cited by Stein⁵ as a synonym of *Chortophila limbinervis* Macquart. I have preferred to regard the two species as distinct. In my opinion *ochripes* differs from *limbinervis* in the form of the clouding of *m-cu* crossvein. In the former species the marking is divided into two dotlike areas, whereas in *limbinervis* the clouding is continuous and subparallel with the crossvein. In the female of *ochripes* the mid and hind femora are yellowish and not largely blackish as in *limbinervis*. Both species lack the fuscous mark (stigma) at opening of cell *Sc.*, as is present in *punctipennis* (Wied.).

Hylemyia (*Craspedochaeta*) *pullula* (Zetterstedt)

Aricia pullula Zetterstedt, Dipt. Scand., IV: 1449 (1845).

Anthomyia pullula Schiner, Faun. Austr., I: 650 (1862).

Hylemyia pullula Rondani, Dell. Soc. Ital. Scienz. Natural., IX: 109 (1866).—Stein, Ann. Mus. Nat. Hungar., XVI: 237 (1918).—Stein, Arch. f. Naturgesch. (1918), LXXXIV A (9): 83 (1920).—Séguy, Gen. Insect., Fasc. 205, p. 109 (1937).—Van Emden, Bull. Ent. Res., XXXII: 264, 267 (1941).

Pegomyia (*Anthomyia*) *pullula* Schnabl and Dziedziicki, Abh. K. Leop.-Carol. Deutsch. Akad. Naturforsch., XCV (2): 111 (1911).

Chortophila (*Egeria*) *pullula* Karl, Tierwelt Deutschlands, XIII: 150 (1928).

Hylemyia (*Melinia*) *pullula* Ringdahl, Ent. Tidskr., LI: 270 (1929).—Ringdahl, Opus. entom., IV: 151 (1939).—Ringdahl, Tromsø Museums Årshefter (1942) LXV: 5 (1943).

Melinia pullula Collin, Jour. Soc. Brit. Ent., I, Pt. 1, p. 22 (1934).

Alaska: ♂, Healy, VI.24.21 (J. M. Aldrich). [U.S.N.M.]

Alberta: ♂, Edmonton, V.27.37 (Strickland), ♂, Cooking Lake, V.24.37 (F. O. Morrison), ♂, Calgary, VI.3.39 (W. S. McLeod). [Univ. Alberta.]

⁵ Stein, P. 1919. Die Anthomyidengattungen der Welt, analytisch bearbeitet, nebst einem kritisch-systematischen Verzeichnis aller aussereuropäischen Arten. Arch. f. Naturgesch. (1917) LXXXIII, Abt. A, heft 1, p. 151.

British Columbia: ♂, Victoria. ♀, Arlin (E. M. Anderson). ♀, Rolla, VII.14.27 (P. N. Vroom), ♀, Nelson, VII.21.27 (A. A. Dennys), ♀, Keremeos, VII.23.23 (C. B. Garrett). [C.N.C.]

California: ♂, Riverside, XI.3.33 (A. J. Basinger).

Colorado: ♀, Lake City, VIII.8-15.36 (C. L. Fluke). ♂, Raymonds, VII.10.37 (R. H. Beamer). [Univ. Kans.]

Idaho: ♀, Moscow Mt., VII.5.12. [U.S.N.M.]

Manitoba: ♀, Hartney, VII.31.37 (H. T. Peters). [Univ. Kans.]

Michigan: ♀, Cheboygan County, VII.3.34 (H. B. Hungerford). ♂, Detroit, V.17.33 (Geo. Steyskal).

Montana: ♂, Bozeman, VII.19.10.

New Mexico: ♀, Red Rion, 9000 ft., VIII.14.40 (F. M. Snyder).

New York: ♂, Ithaca, V.24.22 (L. S. West).

Oregon: ♂, Hood River, VII.17.31 (J. Nottingham). [Univ. Kans.] ♂, Astoria, IV.14.36, ♂, Athena, Wild Horse Mt., V.14.38 (K. Gray & J. Schuh), ♀, Pacific City, Lincoln County, VIII.24.41, ♀, Salem, V.28.40, ♂, ♀, Silvertown Hills, Marion County, VI.30.41 (M. & R. E. Rieder). ♂, Corvallis, IV.17.30 (J. Wilcox). ♂, Mary's Peak, VII.12.31, ♂, Independence, VIII.13.34 (N. P. Larson).

Saskatchewan: ♀, Saskatoon, VI.6.23 (N. J. Atkinson).

Washington: ♀, Rochester, VII.22.31 (J. Nottingham). [Univ. Kans.] ♂, Pullman, VII.1.01, ♂, Wawawai, VI.22.12, ♂, Kettle Falls, V.3.12. [U.S.N.M.] 2 ♀, Rainier National Forest, Sawmill Flat, V.26.35 (J. Wilcox).

Wisconsin: 6 ♂, Dane County, V.21-22.37, 2 ♂, Madison, V.21.35 (F. M. Snyder).

The species *pullula* has been recorded from the Ethiopian (Van Emden, 1941) and Neotropical (Stein, 1918) regions, as well as being widely distributed throughout those of the Palaearctic and Nearctic. In North America I find that specimens may or may not possess a bristle at middle of anteroventral surface of mid tibia, the mid and hind femora of occasional female specimens are paler than the fore femur, and in slightly teneral forms the infuscation of *m-cu* crossveins may not be evident. Del Guercio⁶ has reported the larvae of the species feeding on *Iris* sp.

Hylemyia (Craspedochaeta) mimetica (Malloch)

Hylemyia mimetica Malloch, Trans. Amer. Ent. Soc., XLIV: 313 (1918).—Séguy, Gen. Insect., Fasc. 205, p. 103 (1937).

⁶ Guercio, G. del. 1893. La mosca del Giaggiolo, *Hylemyia pullula* Rondani. Bull. Soc. Ent. Ital., XXIV: 321-330.

Hylemyia (Melinia) karli Ringdahl, Ent. Tidskr., LI: 272 (1929).—Ringdahl, Tromsø Museums Årshefter (1942), LXV: 5 (1943).

Hylemyia karli Séguy, Gen. Insect., Fasc. 205, p. 98 (1937).

Melinia karli Tiensuu, Ann. Ent. Fenn., IV (1): 26 (1938).

Alberta: ♂, Edmonton, IV.30.39, ♀, Wabamun, VI.27.36 (E. H. Strickland). [Univ. Alberta.]

British Columbia: ♂, ♀, Carbonate Columbia River, VII.7–12.08 (J. C. Bradley). ♂, Kaslo, VIII.17.—(A. N. Caudell). [U.S.—N.M.] ♂, Hedley, VII.26.23, ♀, Oliver, VIII.21.23 (C. B. Garrett), ♀, St. Marys, VII.12.26 (A. A. Denny). [C.N.C.]

Colorado: ♂, Tennessee Pass, VII.25.17 (J. M. Aldrich). [U.S.N.M.]

Idaho: ♂, Craigs Mt., Nez Perce County, VII.23.27. ♂, Waha, V.30.24 (A. L. Melander).

Manitoba: ♂, Aweme, VIII.25.07 (James Fletcher). [C.N.C.]

Massachusetts: ♂, Mt. Holyoke Gap, IX.7.14 (C. H. T. Townsend). [U.S.N.M.]

Montana: ♂, Missoula, VII.6.17 (H. G. Dyar). [U.S.N.M.]

New Hampshire: ♂, Franconia, VIII.2.15 (C.H.T. Townsend), ♀, White Mts. (Morrison).

New Mexico: ♂, Cloudcroft, V.27.02, holotype. [A.N.S.P.]

New York: ♀, McLean Reserve, Bog A, VIII.23.24.

Ontario: ♀, Gold Rock, Rainy River District, VII.25.05 (H. H. Newcomb). ♀, Low Bush, Lake Abitibi, VI.4.25 (N. K. Bigelow). [C.N.C.]

South Dakota: ♂, Spearfish, VII.26.24.

Utah: ♀, Rock Canyon, Provo, June (C. L. Hayward).

The species *mimetica* is darker and more shiny than *pullula*, and has no clouding along *m-cu* crossvein. The copulatory processes in the male differ slightly from the typical form possessed by other species belonging to the group in being more rounded apically. There is little doubt in my mind concerning the validity of the above synonymy.

Hylemyia (Craspedochaeta) facialis (Malloch)

Hylemyia facialis Malloch, Trans. Amer. Ent. Soc., XLIV: 306 (1918).—Séguy, Gen. Insect., Fasc. 205, p. 91 (1937).

Arizona: ♀, Rillito, Pima County, III.22.34 (A. J. Basinger). 3 ♀, Yarnell Hill, VII.2.29 (R. H. Beamer). [Univ. Kans.]

British Columbia: ♀, Keremeos, VIII.3.23 (C. B. Garrett). [C.N.C.]

California: ♂, Yosemite Valley, V.22.08, holotype. [A.N.S.P.] ♀, San Andreas Canyon, Riverside County, XI.21.33, ♀, Forest Home, 4000 ft., IX.21.35, ♀, Riverside, X.7.34 (A. J. Basinger). ♀, Echo, VIII.10.40 (E. E. Kenaga), ♀, Giant Forest, VII.28.29, ♀, San Jacinto Mts., VII.21.29 (R. H. Beamer). [Univ. Kans.] ♀, Jacumba, VIII.13.17 (Cornell Exped.). [C.U.] ♂, Mt. Home Canyon, San Bernardino Mts., VI.8.24 (J. M. Aldrich). [U.S.-N.M.] ♀, Monrovia Canyon, III.22.32 (C. H. Martin).

Idaho: ♀, Mts., Moscow, VII.25.20 (R. C. Shannon). ♀, Lewiston Hill, V.10.24 (A. L. Melander).

Nevada: 2 ♀, Carson City, VIII.9.29 (R. H. Beamer). [Univ. Kans.]

Oregon: 2 ♂, Siskiyou Pass, Jackson County, 4500 ft., VII.15.30 (H. A. Scullen). [Ore. State Coll.] ♂, ♀, Corvallis, V.20.41 (P. Mowry). ♀, Kiger Island, Benton County, VII.1.41, ♀, Vitta Springs, Benton County, VI.28.42 (R. E. Rieder).

Texas: 2 ♀, Hidalgo County, III.8.34, ♀, Dimmit County, IV.11.33. [Texas A. & M. Coll.]

Utah: ♂, Cedar City, VIII.13.29 (R. H. Beamer), ♀, Cove Fort, VIII.14.29 (P. W. Oman). [Univ. Kans.] ♀, Bountiful, V.29.29 (H. J. Pack).

Wisconsin: ♀, Madison, V.15.36 (F. M. Snyder).

The species *facialis* has both crossveins broadly clouded and the node at base of veins R_{2+3} and R_{4+5} infuscated. In addition the mid and hind femora are typically yellowish in both sexes. The male has the basal sclerite of hypopygium glossy and black, and the female has a reddish patch on interfrontalia at base of antennae. It is to be noted that among the specimens listed above the color of second antennal segment varies from entirely yellow to rufous and fuscous, and that in male specimens from Oregon the mid and hind femora and calyptreae are brownish tinged.

Hylemyia (Craspedochaeta) nigriceps, n. sp.

Male; grayish black, parafrontals and parafacials densely pruinose, face slate gray, interfrontalia whitish gray pruinose, lower facial mark (between eye margin and vibrissae) lacking; thorax and abdomen grayish, disc of mesonotum slightly fuscous and with trace of three vittae; abdomen with a narrow dorsocentral vitta, basal sclerite of hypopygium glossy. Antennae blackish, second antennal segment subfuscous, palpi black. Fore femora largely infuscated, coxae largely yellowish tinged, tarsi blackish, mid and hind femora and all tibiae yellowish. Wings clear, crossveins largely devoid of infuscation,

calyptres clear, halteres slightly reddish tinged. Eyes separated by a distance about equal to that between posterior ocelli exclusive, parafrontals contiguous, parafacials and cheeks not wider than breadth of third antennal segment, arista short pubescent. Thorax with one strong pair of presutural acrostical bristles, prealar bristle short, disc of scutellum devoid of setulae. Abdomen moderately slender, depressed, processes as in *pullula*. Fore tibia with 2 posteroventral bristles, mid femur with 5 or 6 stout posteroventral bristles, anteroventral surface bristleless, mid tibia with no anterodorsal, 2 posterodorsal, 3 posterior bristles, hind femur with a complete series of anteroventral bristles, those on proximal half shorter and finer, with several short bristles on distal half of posteroventral surface, hind tibia with 1 anteroventral, 7 to 9 anterodorsal, 3 posterodorsal bristles, and 3 or 4 setulae on medial half of posteroventral surface. Costal thorns small, *m-cu* crossvein sinuate and oblique. Length 6 mm.

Female with frontal vitta entirely blackish, prealar bristle as long as posterior notopleural bristle, lower bristle of posterior pair of sternopleurals nearly as strong as upper anterior bristle. Fore tibia with one medial anterodorsal and one posteroventral bristle, mid femur with a bristle at base of anteroventral surface and with 3 or 4 bristles on proximal half of posteroventral surface, mid tibia with 1 anterodorsal, 2 posterodorsal and 1 posterior bristle, hind femur with 4 or 5 anteroventral bristles, posteroventral surface bristleless, hind tibia with 1 anteroventral, 4 or 5 anterodorsal, 3 posterodorsal bristles. Costal thorn short. Otherwise conforming to the male.

Holotype: ♂, Monrovia Canyon, California, VII.6.30 (C. H. and D. Martin).

Allotype: ♀, Mt. Wilson, California, VIII.30.- (C. H. Martin). [U.S.N.M.]

Paratypes: ♀, Lompoc, California, VIII.6.38 (L. W. Hepner), ♀, Santa Cruz Mts., California, VIII.13.38 (R. H. Beamer). [Univ. Kans.]

The species *nigriceps* is most closely related to *facialis*, from which it may be separated by the absence of broad clouding along crossveins, and by the more linear dimensions of abdominal vitta. In both sexes the anteroventral bristles of hind femur are not as stout as in *facialis*, and in the female of *nigriceps* the frontal vitta is entirely blackish.

Acrostilpna Ringdahl

Acrostilpna Ringdahl, Ent. Tidskr., LI: 269 (1929).

Genotype: *Anthomyza latipennis* Zetterstedt (by original designation).

The subgenus *Acrostilpna* was proposed by Ringdahl (1929) for the inclusion of four Swedish species, of which *Anthomyza latipennis* Zetterstedt was selected as the type. These four species, namely, *latipennis* (Zett.), *atricauda* (Zett.), *collini* Ringd. and *luteisquama* Ringd. occur also in North America in addition to the two native forms *sedula* (Huck.) and *latipennis* (Stein not Zett.).

The group may be described as composed of robust forms, pale grayish in general aspect, with dense pruinescence, female with prominent thoracic stripes along planes of dorsocentral bristles; setulae of postocular series in male mostly short and stiffish, antennae longish, oral margin flexed abruptly forward, parafacials and cheeks restricted to narrow proportions for the greater part, proboscis in male slender, upper occipital region immediately below postocular series with several setulae, mesopleura with a bristlelike seta on upper margin adjacent anterior notopleural bristle, stigmal bristles below mesopleural spiracle devoid of accessory setulae at base, sternopleural bristles arranged 2:2; basal sclerite of hypopygium in male polished and black, copulatory processes typical of *latipennis* (fig. 3), sublamellate and truncated at apex, with few bristles on outer surface, fringed with fine setulae along inner margin, ventral border in profile convex; fifth segment of fore tarsus in female enlarged, oblong, except in *latipennis* (Zett.) and *sedula*; costa with setulae on lower surface between humeral crossvein and costal thorn.

KEY TO SPECIES.

(Males.)

1. Hind femur with bristles on proximal half of antero- and posteroventral surfaces, fore tibia with apical posteroventral bristle not fine and setulose 2
 Hind femur with no bristles on proximal region of antero- and posteroventral surfaces exclusive of basal bristle, fore tibia with apical posteroventral bristle fine and setulose 4
2. Calyptrae densely yellowish, hind tibia with 8 or more anteroventral bristles, the series duplicated basad, and with apical posteroventral bristle usually not longer than basal spine on hind metatarsus, processes fringed on inner margin from base to apex with a conspicuous series of longish setulae *replicata* (Huck.)

Calyptrae not densely yellowish, hind tibia with not more than 6 anteroventral bristles, the series not duplicated basad, and with apical posteroventral bristle robust, longer than basal spine on hind metatarsus, processes with a few sparsely arranged setulae on inner margin 3

- 3. Lateral declivities of mesonotum infuscated, vittae along planes of dorsocentral bristles not strongly marked, parafacials at narrowest less than half length of third antennal segment, cheeks at narrowest less than one quarter height of eye.

latipennis (Zett.)

Lateral declivities of mesonotum pale gray, vittae along planes of dorsocentral bristles well marked, parafacials at narrowest equal to half length of third antennal segment, cheeks at narrowest equal to one quarter height of eye.

sedula (Huck.)

- 4. Hind tibia with apical posteroventral bristle setulose, mid tibia with two longer apical bristles on ventral aspect, the apical posteroventral bristle being weakly developed 5

Hind tibia with apical posteroventral bristle robust, mid tibia with three longer bristles on ventral aspect, the apical posteroventral bristle being strongly developed.

collini Ringd.

- 5. Hind tibia with one or two anteroventral bristles, apical postero-dorsal bristle usually robust, calyptrae whitish.

restorata n. n.

Hind tibia with 6 or 8 anteroventral bristles, apical posterodorsal bristle usually setulose or weak, calyptrae yellowish.

atricauda (Zett.)

(Females.)

- 1. Hind femur with one or more bristles on proximal half of antero- and posteroventral surfaces 2

Hind femur with bristles on antero- and posteroventral surfaces not extending to proximal third, or if present weak and setulose, exclusive of basal bristle 4

- 2. Fifth segment of fore tarsus about twice as large as that of mid tarsus, disc of scutellum with several setulae.

replicata (Huck.)

Fifth segment of fore tarsus about equal to that of mid tarsus, discal region of scutellum devoid of setulae 3

- 3. Tergum 5 largely suffused with fuscous reflections, parafacials at narrowest usually less than width of third antennal segment *latipennis* (Zett.)

- Tergum 5 usually largely grayish, parafacials at narrowest usually as wide as breadth of third antennal segment.
sedula (Huck.)
4. Mid tibia with a medial anteroventral bristle, apical postero-dorsal bristle on hind tibia usually strong 5
 Mid tibia with no medial anteroventral bristle, apical postero-dorsal bristle on hind tibia usually weak . . . *atricauda* (Zett.)
5. Hind tibia with apical posteroventral bristle robust, longer than basal spine on hind metatarsus, upper calyptra yellowish.
collini Ringd.
 Hind tibia with apical posteroventral bristle setulose, seldom as long as basal spine on hind metatarsus, calyptrae whitish.
restorata n. n.

Hylemyia (Acrostilpna) replicata (Huckett)

Hylemyia replicata Huckett p. p., Can. Ent., LXI, June, p. 136 (1929).

Hylemyia (Acrostilpna) luteisquama Ringdahl, Ent. Tidskr., LI, Dec., p. 271 (1929).—Ringdahl, Tromsø Museums Årshefter (1942), LXV (2) : 4 (1943).

Hylemyia luteisquama Ringdahl, Ark. Zool., XXI A (20) : 5 (1930).—Séguy, Gen. Insect., Fasc. 205, p. 102 (1937).

Alberta: ♂, Drayton, VI.29.38, ♂, Wabamun, VII.1.35, ♀, Jasper, VII.23.38, ♂, Edmonton, V.24.36 (E. H. Strickland). [Univ. Alberta.] 2 ♂, Banff, VIII.30.17. [Mus. Nat. d'Hist. Natur.]

Michigan: ♀, Isle Royal, VIII.3-7.36 (R. R. Dreisbach). [F. M. Snyder.]

New Hampshire: ♂, Kinsman Notch, VII.7.31, ♂, Noxon Camp, 2000 ft., VII.7.31 (J. M. Aldrich). [U.S.N.M.]

North-West Territories: ♀, Fort Wrigley, Mackenzie River, VII.17.22 (C. H. Crickmay).

The male of *replicata* is notable on account of the stouter truncate form of the abdomen. In both sexes there are several accessory setulae on discal surface of scutellum. In my description of *replicata* I have mistakenly included as the allotype a female belonging to the species *latipennis* (Zett.). This error was largely due to the confusion then prevalent in collections concerning the identity of Zetterstedt's species, evidently as a result of Stein's (1898) misnaming of North American material sent to him for determination.

Hylemyia (Acrostilpna) latipennis (Zetterstedt)

Anthomyza latipennis Zetterstedt, Ins. Lapp., p. 676 (1838).

Aricia latipennis Zetterstedt, Dipt. Scand., IV : 1508 (1845).

Chortophila latipennis Pandellé, Rev. ent. France, XIX: 259 (1900).—Collin, Ent. Month. Mag., LXIII: 131 (1927).

Pegomyia (Pegomyia) latipennis Schnabl and Dziedzicki, Abh. K. Leop.-Carol. Deutsch. Akad. Naturforsch., XCV (2): 112 (1911).

Hylemyia latipennis Stein, Arch. f. Naturgesch. (1915), LXXXI, Abt. A, heft 10, p. 151 (1916).—Séguy, Gen. Insect., Fasc. 205, p. 99 (1937).

Chortophila (Egeria) latipennis Karl, Tierwelt Deutschlands, XIII, Pt. 3, p. 156 (1928).

Hylemyia consobrina Hockett, Can. Ent., LXI: 187 (1929).

Hylemyia (Acrostilpna) latipennis Ringdahl, Ent. Tidskr., LI: 270 (1929).—Ringdahl, Opus. entom., IV (3-4): 142 (1939).—Ringdahl, Tromsø Museums Årshefter (1942), LXV (2): 4 (1943).

Acrostilpna latipennis Collin, Jour. Soc. Brit. Ent., I, Pt. 1, p. 22 (1934).

Alaska: ♀, Katmai, June, 1917 (J. S. Hine).

Alberta: ♀, Edmonton, VI.25.45, ♂, Wabamun, VI.18.37 (E. H. Strickland). [Univ. Alberta.]

British Columbia: ♀, Keremeos, VI.26.23 (C. B. Garrett), ♀, Malakwa, VIII.8.23 (E. R. Buckell). [C.N.C.]

Massachusetts: ♀, Mt. Greylock, VI.15.06.

Michigan: ♀, Douglas Lake, VIII.14.25 (H. B. Hungerford). [Univ. Kans.]

New Hampshire: 3 ♂, ♀, Mt. Washington (Mrs. A. T. Slosson), ♂, Mt. Washington, Alpine Garden, VII.11.31 (A. L. Melander), ♂, Halfway House, Mt. Washington, VII.4.14, ♀, Bretton Woods, VI.26.13.

New York: ♂, Top Mt. MacIntyre, VIII.2.40 (H. Dietrich), ♂, Adirondack Lodge, VI.28.23 (M. D. Leonard).

Ontario: ♂, Waubamic, Parry Sound, VI.4.15. ♀, Chalk River, VIII.25.19 (R. N. Chrystal).

Quebec: ♂, Harrington Harbor, VII.2.29 (W. J. Brown). [C.N.C.]

Vermont: ♀, Mt. Equinox, 3000 ft., VIII.29-30.08.

Washington: ♀, Mt. Baker, Nooksack River, VIII.11.25 (A. L. Melander).

Wyoming: ♀, Yellowstone Park, Madison Junction, VII.27.23 (A. L. Melander).

The male of *latipennis* (Zett.) possesses many of the characters common to *replicata* as mentioned in the key. It differs notably

from the latter species in the slender form of the abdomen and in the lack of setulae on discal surface of scutellum. The female of *latipennis* has the fifth fore tarsal segment unenlarged. The larvae of the species have been recorded by de Meijere⁷ as mining in the leaf-stalk of the fern *Athyrium filix femina*.

Hylemyia (Acrostilpna) sedula (Huckett)

Hylemyia sedula Huckett, Can. Ent., LXI: 183 (1929).—
Séguy, Gen. Insect., Fasc. 205, p. 112 (1937).

Manitoba: ♀, Aweme, VI.23.27 (N. Criddle), ♀, same locality, VII.28.20 (H. A. Robertson).

Michigan: ♂, ♀, Douglas Lake, VII.15–20.26 (C. Martin), ♀, Cheboygan County, VII.6.33, ♂, Lake County, VI.8.40 (R. R. Dreisbach).

New Jersey: ♀, Brown's Mill Jnct., V.21.05.

The species *sedula*, closely resembling *latipennis* (Zett.), is smaller and has the cheeks higher below the eye and parafacials broader ventrad of base of third antennal segment. The fifth abdominal tergum and lateral regions of mesonotum are largely pale gray, whereas in *latipennis* these areas are usually suffused with infuscation. In nearly all specimens of *sedula* that I have seen there are evidences of one or more minute setulae on distal third of vein R_1 on upper surface of wing.

Hylemyia (Acrostilpna) collini Ringdahl

Hylemyia (Acrostilpna) collini Ringdahl, Ent. Tidskr., LI: 271 (1929).—Ringdahl, Tromsø Museums Årshefter (1942), LXV (2): 4 (1943).

Hylemyia collini Séguy, Gen. Insect., Fasc. 205, p. 87 (1937).

Alberta: 3 ♂, Wabamun, V.27.36, same locality, 2 ♂, VI.27.36, ♂, VII.1.35, ♀, VII.1.39 (E. H. Strickland). [Univ. Alberta.]

Labrador: ♂, Nain, late June, 1922 (Waugh).

The species *collini* possesses a more extensive series of anteroventral bristles on hind femur than in *atricauda* or *restorata*, but in no case does the series extend to proximal region as in *latipennis* and *replicata*. It differs notably from the former two species in having a robust apical posteroventral bristle on hind tibia.

Hylemyia (Acrostilpna) atricauda (Zetterstedt)

Aricia atricauda Zetterstedt, Dipt. Scand., IV: 1529 (1845).

Hylemyia (Acrostilpna) atricauda Ringdahl, Ent. Tidskr., LI:

⁷ Meijere, J. C. H. de. 1911. Über in Farnen Parasitierende Hymenopteren- und Dipteren- Larven. Tijdschrift voor Entomologie, LIV: 106–111.

269-70 (1929).—Ringdahl, Tromsø Museums Årshefter (1942), LXV (2): 12 (1943).

Alaska: ♂, 3 ♀, Virginia Bay, VI.26.99 (T. Kincaid, Harriman Exped.). [U.S.N.M.]

Colorado: ♂, Pingree Park, VII.10.38 (M. T. James). [Colo. State Coll.]

Maine: ♂, Orono, VI.5.13 (H. M. Parshley).

Michigan: ♀, Schoolcraft County, Floodwood, VII.21.15 (J. S. Rogers).

New Brunswick: ♂, Fredericton, VI.25.15 (A. B. Baird).

New Hampshire: ♂, Jaffrey, VI.4.20. ♀, Mt. Monadnock, VII.26.26 (A. L. Melander).

New York: ♂, Whiteface Mt., Adirondacks, VII.4.21, 3000 ft. (J. M. Aldrich). [U.S.N.M.] ♂, ♀, Lake Tear, Essex County, 4300-4600 ft., VII.20-21.20.

Ontario: 2 ♂, ♀, Low Bush, Lake Abitibi, VI.18-30.25 (N. K. Bigelow).

Quebec: ♀, Harrington Harbor, VII.4.29 (W. J. Brown). [C.N.C.]

Vermont: ♀, Peak of Mt. Mansfield, VIII.17.35 (Blanton & Borders).

The species *atricauda* and *restorata* lack the robust bristle at apex of posteroventral surface of hind tibia, thereby differing from the remaining species in the group. In *atricauda* the hind tibia has usually a weak apical posterodorsal bristle and six to eight anteroventral bristles, whereas in *restorata* the apical posterodorsal bristle is usually strong and there are two or three anteroventral bristles. In the female of *atricauda* there is no anteroventral bristle on mid tibia, and the enlargement of fifth fore tarsal segment is not so marked as in other species.

***Hylemyia (Acrostilpna) restorata* nom. nov.**

Chortophila latipennis Stein not Zetterstedt, Berl. Ent. Zeitschr. (1897), XLII (3-4): 235 (1898).

Phorbia latipennis Aldrich, Misc. Coll. Smithsn. Inst., LXVI: 557 (1905).

Hylemyia latipennis Hockett, Mem. 77, N. Y. (Cornell) Agr. Exp. Sta. (1923), p. 30 (1924).

Connecticut: ♀, Stamford, V.22.31 (Bartlett Tree Research Labr.).

Georgia: ♂, 11 ♀, Indian Springs, IV.8-13.40 (H. C. Hockett).

Massachusetts: ♂, Wellesley, V.20.09 (J. D. Tothill), ♂, Reading, V.15.15 (C. W. Collins), ♀, near Salem, VI.9.18. [U.S.N.M.]

New Jersey: ♀, Laraway, Ocean County, V.28.16. [U.S.N.M.]

New York: Long Island; ♂, ♀, Babylon, VI.1-8.35, holotype and allotype. [U.S.N.M.], 5 ♂, 3 ♀, same locality, VI.3-26.35, ♀, Dix Hills, V.19.35, 3 ♀, West Hills, VI.1.35 (all Blanton & Borders), ♀, Hicksville, VI.3.44, ♂, Selden, V.12.24, ♀, Riverhead, V.20.23 (H. C. Hockett). ♀, Ringwood near Ithaca, VI.13.22, ♀, McLean Bogs, Tompkins County, V.30.21 (M. D. Leonard), ♂, Mt. MacIntyre, summit, VIII.29.22 (Shannon & Sibley), ♂, ♀, Top Mt. Whitface, VI.21.36 (H. Dietrich).

North Carolina: ♀, Raleigh, IV.11.33 (C. S. Brimley). [F. M. Snyder.]

Ohio: ♀, Vinton, VI.5-12.00 (J. S. Hine).

The species *restorata* differs notably from *latipennis* (Zett.), under which name it has recently appeared in North American literature, in the bristling of the hind femur as stated in keys. The male of *restorata* may further be distinguished from that of *latipennis* by the weaker or finer development of apical bristle on posteroventral surface of fore and hind tibiae, and in the female by the enlarged flat appearance of fifth fore tarsal segment.

EXPLANATION OF PLATE III.

Male copulatory appendages, showing caudal or dorsal and lateral aspects of tergum 9, ventral aspect of sternum 5, and lateral aspect of processes of sternum 5.

Figures 1, 2, 3, 3a. *Acrostilpna latipennis* (Zetterstedt).

Figures 4, 5, 6, 6a. *Craspedochaeta pullula* (Zetterstedt).

Figures 7, 8, 9, 9a. *Craspedochaeta punctipennis* (Wiedemann).

